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Happy Tax Day again. We hope you all have your taxes done for Uncle Sam. If not, you'd better buy TAXIQL and get to it!

We have finally received THOR and it is now up and running. All we ordered was a barebones one, without QL circuit board or drives.

As THOR comes now, the metal backplate is configured for UK machines. We had to de-solder the serial ports and joystick ports in order to get the U.S. circuit board to fit inside the box. As of this writing, we are still without the ports. We have an Epson FX-80 which we plan to hook up to the Centronics port that is standard on any THOR configuration. We tried one cable but evidently the pinouts were wrong as we got nothing to print whatsoever. Knighted Computers sent us one of theirs and it worked fine. We now have full printer capability available with THOR.

We installed a single Teac FD55 3 1/2" drive. The case is really for a NEC or Mitsubishi drive which is slightly smaller. The drive works fine but unfortunately we cannot see the drive light turn on and off which is annoying. The rear holes for the drive did not match up to the pre-drilled holes in the bottom of the THOR case. Consequently to insure the drive is secure you would have to possibly drill new holes depending on what type of 3 1/2" drive you buy but this should not be a problem.

The manual which comes with THOR is good but the pages have a tendency to fall out easily--it's not the best binding job in the world. It includes sections on SuperBasic, XCHANGE, ICE, and the multi-tasking environment included with XCHANGE, as well as information on hard disk directories, etc.

Toolkit commands are included in ROM such as those found on Tebby's TOOLKIT II. We have been using the FSERVE command to network THOR to QL's so we can have access to microdrives and files that are on 5 1/4" disks which is what we use for our Point of Sale. We are using a 50' networking cable and everything has so far performed flawlessly. All existing Psion program files for all four business programs work fine from within XCHANGE. There is also a ramdisk built in which is dynamic-you can copy or wcopy to it without having to format it first. Pressing the "ALT" and ENTER key together at the same time automatically repeats the last line typed.

XCHANGE is very similar to the four Psion programs except that you have access to a command called TSL which stands for "task sequencing language." Primarily, a TSL program consists of a simple list of key presses. When you run the program, this sequence is interpreted as

though you were typing it at the keyboard. You can, for example, with TSL go into EASEL and create a new task, enter some numbers and have different graphs drawn up, all from a few simple key presses.

From within any of the four programs you can hit the F6 key to return to the XCHANGE main menu. From this you can, for example, choose QUILL but before it brings the word processor up on the screen, it asks you to give it a task name. Suppose for example we are working on the QL REPORT. Before we enter QUILL we assign a task name of, say, "qlr." We then enter QUILL, work on the Report, etc. etc. If we want to go to ARCHIVE and check our stock figures, we hit F6 to get back to the main XCHANGE menu, select ARCHIVE and assign a task name of,say, "stock." Then we look at our stock file or whatever. We could then hit F6, choose QUILL again, assign a task name of "letter" and begin a letter to a friend. Returning to the main XCHANGE menu would then show QUILL, ABACUS, ARCHIVE and EASEL and QUILL_qlr, ARCHIVE_stock, and QUILL_letter and would show how much "k" each task was using.

As far as major differences between XCHANGE and the four Psion programs, there really are none to speak of. The XCHANGE version of QUILL has a very nice command called EXTRACT which is missing from the QL version. What this allows you to do is to extract any portion of your document that you want and put it into a buffer_doc for export or merging into another document or file. As we all know, with QL QUILL, this is impossible to do. We can, for example, first review something in QLR and then use the extract command from XCHANGE for that paragraph(s) and merge it into our QL catalog as a new item. When you use the "SEARCH" command on QUILL-XCHANGE it asks you whether you want to search from the cursor position or from T(op).

We have not worked with the other 3 programs as much as QUILL but they all seem the same as the QL versions. ARCHIVE on XCHANGE still has supposedly the limitation of 2334 records maximum whereas on the IBM version of XCHANGE you can have up to 65,000 records! XCHANGE is much nicer to work from than say ICE or TASKMASTER because everything is already more or less defined for you.

REVIEW OF TALENT'S BASIC-ALLY

by Rich Bazan

Basic-Ally is a program no user of Superbasic should be without.It is a debug and trace utility which makes finding and correcting mistakes in Superbasic programs both fast and easy.The output is presented in a manner very similiar to Talent's Assembler Workbench,since both programs were written by the same author,Eddy Yeung.

The program is supplied on microdrive and if desired can easily be converted to run from disk.Full documentation is provided on the cartridge in the form of a Quill _doc file.The program,however,is copy protected requiring the use of the master cartridge in mdv2_ during loading. Once booted,the user is presented with a menu of choices———either or both the debugger and the accompanying editor can be loaded or a return to Superbasic can be made.

Once the debugger is invoked,several extensions are added to Superbasic to allow for program tracing.These include the commands TRACE,DVAR,and XREF.

In the debug mode,the program has a dual screen mode.This provides a separate screen to display the program's debug/trace output, while still retaining the user's original Superbasic screen.The screens can be swapped under program or user control.This is especially useful for tracing programs which use graphics.A single screen mode can also be selected.

The BREAK command interrupts normal SUPERBASIC execution of a program and causes entry into a single-stepping mode.The BREAK can be either unconditional or dependent on the values of certain program variables(conditional) thru the use of normal IF statements.In this mode, as each Superbasic statement is executed it is displayed and then highlighted.For programs which contain multiple statements within a single line number, the relevant section of the line is highlighted.In addition to this,the values of every variable calculated within the statement are displayed.A moving 'ticker-tape' display along the top shows a history of the last 20 or so line numbers executed-- making it simple to catch endless loops and other such programming nightmares.Each press of the space bar causes the next statement to be executed.Alternately by hitting F1,the program can be made to automatically step at a fixed rate.In the dual screen mode this causes the screens to be swapped as each statement is executed. Here within lies the only 'bug' I found with the program. The rate is such that the screens switch quite rapidly and it is difficult to see the results of the statements.However,the user still has the choice of a manual switching if desired. Talent would be wise to alter this to allow for a user-selected execution(switching)rate. During the tracing mode the user can also select several other options: to view or set the value of any variable whether a single value or part of an array,to edit a program line,to re-start execution from a given line number or to gain information concerning DATA statements currently being read.The amount of memory used by Superbasic can also be displayed.

The DVAR command allows the user to specify which variables he wants to set the values of each time a statement is executed. This allows one to keep continual track of key variables in a program. XREF provides a listing to any channel(screen,printer,file,etc)of variables and keywords used in the program along with the line numbers in which they occur.This is useful when editing a program.The PLIST command provides automatic identation of a program making if very easy to follow the program flow.

The cartridge also contains a full-screen editor essentially identical to the one provided with the Assembler Workbench.It provides the bulk of editing functions normally required(including find,exchange,and block movements) and can be multi-tasked.Once a file is created or loaded it resides in ram and can be manipulated in memory for almost all subsequent operations(copy,exec,load,lrun,etc).This makes its operation very quick as disk or microdrive access is eliminated.It is re-entrant and only needs about 6k of machine code for the editor itself regardless of the number of files being edited simultaneously.(Each file does need additional memory for a workspace,

but does not require its own copy of the editor.

Basic-Ally is a useful utility which will pay for itself in the time it saves in debugging a misbehaving program. I recommend it for any serious user of Superbasic.

As an added bonus, included on the cartridge is an all-machine code program named BOMBER which provides a very fast shootem-up time arcade game with reasonable mode 8 graphics.
//

We have been adding a fair amount of new procedures to our Point of Sale System. On invoices up until mid-March, you will notice there is a line for "Credits" which always appeared on your invoice regardless of whether or not you had a credit. We have a database file called "AR" which keeps track of whether you owe us or we owe you, so to speak. If you have a credit, it appears on the screen as a negative number.

The problem was, that if you did not remind us you had a credit, or if we forgot, the invoice for the new purchase would be generated without checking "AR" to see if you had a credit that could be taken. A procedure was written which automatically calls up the customer of the current invoice and searches "AR" for his or her name. If the person is found but the amount shown is zero or positive, the credit line is not written on the invoice and the next line printed will be tax, shipping, etc. However, if the person is in "AR" and does have a credit, when you confirm this, the credit is automatically written to the invoice, figured into the sub-total and totals, and subtracted out of "AR". If on your invoice you see that the line that says "Balance Due" contains a negative number, then that means you do have a credit which will automatically be taken into account on your next invoice. We hope this helps you as much as it will help us.

The other procedures we have been working on revolve around QLR and magazines. Any of you out there who are using ARCHIVE to keep track of subscriptions of any kind may find this helpful.

With practically any type of subscription-based operation, be it magazines, newsletters or whatever, it is always vital to keep good records that show when a customer's subscription is about to expire or how many issues they have left. The User Guide shows a procedure that we began with- the one which after it prints a mailing label subtracts one from the "issues left" field and added one to the "issues sent" field. Your label for QLR now shows a number in the bottom left corner which corresponds to the number of issues you have left in your current subscription. Labels for magazines now also show this which is helpful because some customers will say--charge 4 issues on my credit card--so they can see when to ask to have more isssues charged.

The problem we were experiencing was if the customer's subscription ran out, say, in January, and then they sent in a check for a renewal in March or April, they might end up missing an issue or two. Or, if they called on the 22nd to see if we had mailed the latest issue, it was hard to track this type of thing.

One easy way to track this is to make sure when creating the file that

you have a field such as "Paid Up Thru..." and then you simply enter in what month they will get their last issue. However, with magazines (especially British ones) this created a problem since occasionally we would not receive a certain month and then things really got complicated.

The procedure printed below is one of the procedures in our subscription database which prints out an aphabetical list of all the customers who are ready to receive a current issue--i.e., a customer with at least one issue left to receive. Before we are allowed to print labels, which after the label is printed automatically subtracts one from the number of issues left and adds one to the field with issues sent, we have to go to the following prcedure:

```
proc sent

input "which file? ";v$
look v$
if v$="mag"
input "Which mag ?";n$
select mag$=n$
endif
order surname$;a
select issues>0
input "What month is this ?";x$
input "What Mag ?';b$
lprint "These people all received ";x$;" issue of ";b$
lprint
lprint
while not eof()
lprint fname$;"   ";surname$
next
endwhile
close
endproc
```

Because we have different files for QLR or magazines, "v$" determines which file to look at for the data. If v$ is "mag" then it asks which mag file, Sinclair User, QL World, etc. Once the correct file is chosen, the file is ordered on the surname(last name) field alphabetically. The month and which magazine is printed to the printer and then all people who will receive the current issue of QLR, QL World, etc. will be dumped to the printer. With the date we sent all these out. If John Doe calls three days later asking if we sent his issue of QLW, we can immediately look it up on the sheet. We are continually amazed at how versatile ARCHIVE is, especially for the small business.

We have coming from a source in Germany a CP/M emulator which may be of interest to a lot of you. Supposedly this emulator and the disk formatter will allow you to run most CP/M programs on your QL. We are hearing rumours that Borland's TURBO PASCAL and WORDSTAR can be run but we have no first-hand proof of this. To be able to run CP/M programs on the QL would greatly increase the QL's library of software. We hope to have a sample at the Computerfest and will mention more about this item in next month's Report.

PCB2 is now in stock but we do want to remind you it does require 512k

extra RAM. PCB1 on the other hand only requires 128k which means it will run on your standard machine.

Sandy have announced a new SuperQ board which we have on order. It has been specifically designed for the U.S. market and sounds very impressive. The board comes with 512k extra memory, parallel printer port, disk interface port which will support either 3 1/2" or 5 1/4" floppy drives, all on one small board. In addition, there is a mouse included, a cad program that is mouse compatible, TOOLKIT II in eprom, and QRAM, Tebby's new superfast ramdisk utility. For those of you thinking of upgrading to disks and/or extra memory, this might be the answer.

Joe Jenkins of Amarillo wrote us recently and we offer excerpts from his letter below:

"I receive and read the Civil Engineering Magazine which is published by the American Society of Civil Engineers. Many are IBM-PC/AT...but I recently noticed an ad for the ...Sinclair.

...the expanded QL is being used on design and structural analysis of sizeable structures to 15 stories.

...Have you read anywhere else of of Structural Design Analysis using the QL? I'd ike to hear."

Joe E Jenkins, PE
3100 Mockingbird
Amarillo, TX 79109

Bob Howard offered some QL tips in TIMELINEZ, an excellent publication for T-S users in the Bay Area. We reprint some of his tips with his kind permission:

"Here are some POKES for... that were sent to me by my friend that runs a French language TSUG in Montreal. So credit Real Gagnon for these QL pokes if you want to publish them.:

POKE_W 163976,255   Caps ON
POKE_W 163976,0   Caps OFF
POKE   163891,1   Freeze the screen
POKE   98403,2   Blank the screen
POKE   98403,0   Un-blank the screen
POKE   98403,64   Try it!
POKE   98403,8   Try it!
To disable BREAK use POKE_L 163900,0

..Beware of WHEN ERROR...END WHEN as it is BUGged. The error flag is never reset."

Bob Howard
750 N Yaleton Avenue
West Covina, CA 91790

Carlos Lytle of Worthington, Ohio has sent us a nice program that prints out the QL character set. He writes:

"Here is a small SuperBasic program you might want to put in the

QL REPORT. When I am writing or amending a program, I find myself
going to the QL USER GUIDE more than once to look up a charcter
number. So, I wrote this little program-which prints out a very
helpful character guide-to put beside my QL."

```
1 REMark  "QL PRINTABLE CHARACTER SET"
2 REMark  "by Carlos Lytle  Mar.  87"
3 OPEN#3,ser1: PRINT#3, CHR$(27);"!";CHR$(24)
4 REMark  "Above printcode is DOUBLESTRIKE BOLD"
5 PRINT#3, "QL PRINTABLE CHARACTER SET (ASCII=32 TO 127)"
6 PRINT#3;FILL$("-",80)
7 FOR A=33 TO 191: PRINT #3;A!CHR$(A),
8 PRINT#3;FILL$("-",80)
9  PRINT#3;CHR$(27);"-";CHR$(1);"TO PRINT THESE CHARACTERS NOT
SHOWN ON KEYBOARD"
10 REMark "Above printcode is UNDERLINE ON"
11 PRINT#3;"CHACATER","DESCRIPTION","KEYING",,"CHR$ #"
12 PRINT#3\CHR$(27);"-";CHR$(0);"   ",,"CENTS SIGN","CTRL=",,157
13 REMark "Above printline is UNDERLINE OFF"
14 PRINT#3,"      8",,"ARROWS LEFT","CTRL SHIFT X",184
15 PRINT#3,"      9",,"ARROWS RIGHT","CTRL SHIFT Y",185
16 PRINT#3,"      :",,"DEGREES",,"CTRL SHIFT Z",186
17 PRINT#3,"      ;",,"DIVISION SIGN","CTRL [",,187
18 PRINT#3,"      <",,"LEFT ARROW,"CTRL \",,188
19 PRINT#3,"      =",,"RIGHT ARROW,"CTRL ]",,189
20 PRINT#3,"      >",,"UP ARROW","CTRL SHIFT 6",190
21 PRINT#3,"      ?",,"DOWN ARROW","CTRL SHIFT -",191
22 PRINT#3,"      I",,""CTRL SHIFT Q",177
23 PRINT#3,;FILL$("-",80)
24 PRINT#3,CHR$(27);"-";CHR$(1);CHR$ NUMBERS FOR THESE CONTROL
KEYS"
25 PRINT#3,CHR$(27);"-";CHR$(0);
26   PRINT#3," F1=232   F2=236   F3=240   F4=244   F5=248   TAB=9
ENTER=10  ESC=27   SPACE=32"
27 PRINT#3,;FILL$("-",68)
28 CLOSE#3
```

QL Graphics --------by Dr. Howard Clase

"The graphics commands in superbasic provide a very convenient
tool for the screen designer because they automatically look after
the X:Y scaling, but this can be a problem if you mix them with
pixel based commands like BLOCK, or text positioned with the AT or
CURSOR keywords.
I had been looking into how one can use the graphics commands to
address individual pixels, and, in the process, stumbled upon
another difference between the JSU and the various UK ROMS, the
X:Y scaling factors are not the same! The same graphics command
puts everything about 15% further to the right on the screen on a
JSU machine than with a UK machine, which is why some UK
originated programs look distinctly odd over here!

To cut a long story short, if you want your X,Y values to
correspond to exact pixel positions on the screen first use SCALE
(h-1), where h is the window height in pixels (one more fence post
than railings.) Then multiply each X value by the scale factor,
"f" e.g:-

```
POINT 5,f*5 -                       ·
will plot a point at pixel 5,5 (relative
```

to the cartesian origin.)

```
LINE 5,f*5 TO 50,f*50 -
will draw a line from pixel 5,5
```

to pixel 50,50.
etc.

The difference lies in the value of "f": for my JSU machine it is
0.62959, but for a JM machine in the UK it is 0.7380.   Is this a
bug, or is there some mysterious reason?   Who knows what other
values there may be on other ROMS.   If anyone would like a copy
of my short program to find the value on their system I'd be happy
to send a listing, or send a cartridge for a copy if you want to
save most of the typing.

To adjust UK programs to the JSU all X values in graphics commands
should be reduced by the ratio of the above values (0.62659/0.7380
= 0.8490), and vice versa."
//

For those of you who are interested, we are now offering the TEST
cartridge program and a loop-back cable (which connects to both
serial ports) as a package for either $13.50 if we supply the
cartridge or $10.95 if you send us a cartridge to put the program
on.

We are looking forward to meeting a lot of you next month at the
Computerfest. It will be nice to put a face with voices that we
have been talking to over the years. Tell   all of your
Timex-Sinclair friends to attend. For those of you who still have
their 2068, we will be bringing a lot of software for it,
including a lot of Spctrum software. We also will have items for
the 1000 as well and may even show up with a Z88.

Next month we will devote a lot of space to the Fest and have
articles by Marshall Stiles and Dr. Clase. So, until then, enjoy
your QL.